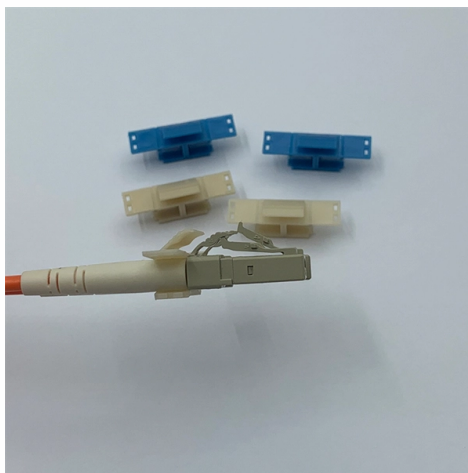


## Gigabit Dual Fiber Optic Module



### Overview

SFP transceiver that supports 1G connections up to 550 m using multi-mode fiber with a duplex LC UPC connector.

### Key Takeaways

Gigabit dual-fiber optic modules use two fibers—one for transmitting and one for receiving—to connect network devices over short or long distances, commonly in switches, routers, servers, and storage systems.

Gigabit dual-fiber optic modules are Small Form-factor Pluggable (SFP) transceivers designed for high-speed 1 Gbps data transmission. Unlike single-fiber modules, which use one fiber for bidirectional communication, dual-fiber modules require two separate fibers: one for transmitting (TX) and one for receiving (RX) signals. The interface type is typically duplex LC, and they support both single-mode and multimode fibers depending on the application .

### Applications

Dual-fiber modules are widely used in:

- Gigabit switches and routers to extend network connectivity across enterprise or data center environments .
- Servers and storage devices, supporting both Ethernet and Fibre Channel standards for high-speed data transfer .



- FTTx (Fiber to the x) deployments, where dual-fiber SFPs connect customer premises equipment (CPE) to service provider networks .
- Industrial or outdoor networks, where modules with extended temperature ranges (-40°C to 85°C) are required .

#### Technical Characteristics

- Transmission Distance:
  - Multimode dual-fiber modules: up to 550 meters using OM2 fiber .
  - Single-mode dual-fiber modules: up to 10-160 km depending on the SFP type and fiber quality .
- Hot-swappable: Can be inserted or removed without powering down the device .
- Digital Optical Monitoring (DOM): Many modules provide real-time monitoring of temperature, transmit/receive power, and voltage .
- Compatibility: Works with standard Gigabit Ethernet (1000BASE-SX/LX/EX/ZX) and Fibre Channel networks .

#### Advantages

- Reliable bidirectional communication with dedicated fibers for TX and RX.
- High performance over both short and long distances.
- Flexibility: Can be used in a variety of network devices and environments.
- Scalability: Supports network expansion without replacing existing infrastructure.

#### Considerations

- Higher wiring cost compared to single-fiber modules due to the need for two fibers .
- Fiber type selection is critical: multimode for short distances, single-mode for long-haul links.
- Environmental conditions: Choose industrial or extended temperature modules for outdoor or harsh environments. In summary, Gigabit dual-fiber optic modules are essential for reliable, high-speed network connections, particularly in enterprise, data center, and FTTx deployments, offering flexibility, monitoring capabilities, and support for both Ethernet and Fibre Channel standards .

## Article Content

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Amazon : 2Pack BiDi Gigabit Multi-Mode Fiber

About this item Complete Package: Includes 2 Gigabit Multi-Mode Fiber Ethernet SFP Slot media

What Are The Types Of Gigabit Optical Modules

The interface type of dual fiber optical module is duplex LC, and the optical fiber types are single-mode and multi

1G Multi-Mode Optical Module

SFP transceiver that supports 1G connections up to 550 m using multi-mode fiber with a duplex LC UPC connector.

1.25G SFP Module Transceiver, 1000Base-LX,1310nm SMF,Dual LC Fiber

1.25G SFP MODULE- 1.25Gbps SFP Optical Transceiver, Dual LC single-mode fiber, 1310nm, up to 20km super long

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Optic Modules Datasheet

4 Optic Modules Data Sheet ... SFP (form factor) = small form-factor pluggable transceiver SMF (media) = single-mode fiber-optic

H!Fiber 1.25G Single Mode SFP LC Module, 1000Base-LX/LH Fiber ...

About this item 1000Base-LX/LH SFP: Gigabit Single Mode SFP Module support 1.25 Gb/s data rates, 1310nm wavelength, SMF;

SFP Gigabit Fiber Module

Our 1000Base-SX LC multimode 850nm SFP gigabit fiber modules are compatible with any Cisco or MSA SFF-8472.

Syrotech 20KM 1.25G 1310 Single Mode Single Fiber SFP Module

Product Description Brand: Syrotech Syrotech 20KM 1.25G 1310 Single Mode Single Fiber SFP Module - Pair Made with heavy-duty

Amazon : Fiber To Ethernet Converter

A Pair of 1.25G/s Bidi Gigabit Multi-Mode Fiber Ethernet Media Converter with 2PCS Bidi SFP LC Dual Transceiver Module Included,

MC230L | Gigabit SFP to SFP Fiber Converter | TP-Link

What This Product Does The MC230L is a media converter designed to convert between two gigabit SFP

Cisco Transceiver Modules

Cisco Transceiver Modules - Learn product details such as features and benefits, as well as hardware and software specifications.

Gigabit Fiber SFP Optical Transceiver Module

The transceiver is available as a mini-GBIC form factor, making it ideal for environments that require many

SFP Transceivers | 1G, CWDM, DWDM, BiDi | EDGE Optical Solutions

Standard duplex Gigabit Ethernet SFP transceivers operating over dual-fiber single-mode connections. Covering distances from

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Dual Fiber

Regular SFP optical transceivers use two fiber strands to operate. This category includes all types of SFPs using two strands: one for

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